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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/649,030

08/27/2003

Mitchell Paul Tasman

BBNT-P01-248

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10/10/2006

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EXAMINER

BOUTAH, ALINA A

ART UNIT

PAPER NUMBER

2143

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,030

Applicant(s)

TASMAN ET AL.

Examiner

Alina N. Boutah

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 and 45-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 and 45-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-38 in the reply filed on July 19, 2006 is acknowledged.

In the amendment filed July 19, 2006, Applicant has added claims 45-50. Claims 1-38 and 45-50 are now pending in the present application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-38 and 45-50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Amended claims 1, 4-6, 8, 10-12, 14, 16, 17, 19, 21-27, 29, 33 and newly added claims 45-50 recite the use of "output queue" that was not originally disclosed in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-38 and 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,683,885 issued to Sugai et al. (hereinafter referred to as Sugai) in view of USPN 6,216,167 issued to Momirov.

(Amended) Regarding claim 1, Sugai teaches method for transmitting data units from a node in a communications network, the node including one or more network interfaces, each of the one or more network interfaces being associated with at least one queue, the method comprising:

identifying one of the one or more network interfaces for transmitting a first data unit (abstract; col. 3, lines 17-45; figure 1);

storing the first data unit in a queue of the at least one queue associated with the identified network interface (figure 2: route table);

retrieving, for the identified network interface, the first data unit from the queue associated with the identified network interface (col. 6, lines 45-56);

determining one of the one or more network interfaces from which the first data unit is to be transmitted (figure 1; col. 5, lines 15-29); and

forwarding the data unit to the determined network interface for transmission when the determined network interface is the identified network interface (figure 1; col. 5, lines 15-29).

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However, Sugai does not explicitly state the storing of the first data unit in an output queue, and determining one of the one or more network interfaces from which the first data unit is to be transmitted subsequent to storing the first data unit in the output queue. In an analogous art, Mimorov teaches maintaining output queues for the associate received data (col. 1, lines 52-60; figure 1: 111-113; figure 3A-3C: 320 and 345), and subsequent to storing a data in the output queue, transmitting the data to its appropriate ports (figures 1 and 3C). At the time the invention was made, one of ordinary skill in the art would have been motivated to employ an output queue in order to reduce the amount of information that needs to be accessed and processed at the node, therefore efficiently switching data (col. 3, lines 29-62).

Regarding claim 2, although Sagai does not explicitly teach the method of claim wherein the communications network is an ad hoc network, one of ordinary skill in art would have recognized that this feature is well known in the art (see background of Applicant's specification).

Regarding claim 3, Sugai teaches the method of claim 1 further comprising: determining, prior to storing the first data unit, whether the first data unit is a multicast data unit (col. 5, line 15-29).

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Regarding claim 4, Sugai teaches the method of claim 3 further comprising: determining, when the first data unit is not a multicast data unit (col. 5, line 15-29), a priority for the first data unit (col. 2, lines 53-59); and storing the first data unit in a sub-queue within the queue associated with the identified network interface based on the determined priority (col. 7, lines 6-25).

Regarding claim 5, Sugai teaches the method of claim 3 further comprising: determining, when the first data unit is a multicast data unit, a priority for the first data unit (col. 5, lines 15-29); and storing the first data unit in a sub-queue within a queue of the at least one queue associated with each of the one or more network interfaces based on the determined priority (col. 7, lines 6-25).

Regarding claim 6, Sugai teaches the method of claim 3 further comprising: determining, when the first data unit is a multicast data unit, a priority for the first data unit (col. 5, lines 15-29); and storing the first data unit in a sub-queue within a queue of the at least one queue associated with at least one of the one or more network interfaces based on the determined priority (col. 7, lines 6-25).

Regarding claim 7, Sugai teaches the method of claim 3 wherein, when the first data unit is a multicast data unit, the determining one of the one or more network interfaces includes:

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identifying a next node to receive the first data unit from a list of next nodes, and determining the one of the one or more network interfaces based on the identified next node (col. 5, lines 15-25 and col. 7, lines 6-25).

Regarding claim 8, Sugai teaches the method of claim 7 further comprising: storing, prior to the forwarding, a copy of the first data unit in the queue associated with the identified network interface when the determined network interface is the identified network interface, and recording a current position in the list of next nodes (figures 10 and 12).

Regarding claim 9, Sugai teaches the method of claim 7 further comprising: dropping the first data unit when no next node is identified from the list of next nodes (col. 2, lines 53-59).

Regarding claim 10, Sugai the method of claim 1 further comprising: assigning a sequence number to the first data unit, and wherein the storing the first data unit includes: storing the sequence number with the first data unit in the queue associated with the identified network interface (figure 3).

Regarding claim 11, Sugai teaches the method of claim 10 further comprising: storing the first data unit in a queue of the at least one queue associated with the determined network

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interface when the determined network interface is different from the identified network interface (figure 6).

Regarding claim 12, Sugai teaches the method of claim 11 wherein the storing the first data unit in the queue associated with the determined transmission interface includes: storing the first data unit in the queue associated with the determined transmission interface based on the sequence number assigned to the first data unit (figure 8).

Regarding claim 13, Sugai teaches the method of claim 10 further comprising: discarding the first data unit when the determined network interface is different from the identified network interface (figure 5A).

Claims 14-24 are similar to claims 1, 3, 4, 5, 7, 8, 13, 10, 11, 12 and 6, respectively, therefore are rejected under the same rationale.

Regarding claim 25, Sugai teaches a system for transmitting data units from a node in a communications network, the node including one or more network interfaces, each of the one or more network interfaces being associated with at least one queue, the system comprising:

means for identifying one of the one or more network interfaces for transmitting a data unit (figures 11-13);

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means for storing the data unit in a queue of the at least one queue associated with the identified network interface (figure 1);

means for retrieving, for the identified network interface, the data unit from the queue associated with the identified network interface (figure 3);

means for separately determining one of the one or more network interfaces from which the data unit is to be transmitted (figure 9); and

means for sending the data unit to the determined network interface for transmission when the determined network interface corresponds to the identified network interface (abstract).

However, Sugai does not explicitly state the storing of the first data unit in an output queue, and determining one of the one or more network interfaces from which the first data unit is to be transmitted subsequent to storing the first data unit in the output queue. In an analogous art, Mimorov teaches maintaining output queues for the associate received data (col. 1, lines 52-60; figure 1: 111-113; figure 3A-3C: 320 and 345), and subsequent to storing a data in the output queue, transmitting the data to its appropriate ports (figures 1 and 3C). At the time the invention was made, one of ordinary skill in the art would have been motivated to employ an output queue in order to reduce the amount of information that needs to be accessed and processed at the node, therefore efficiently switching data (col. 3, lines 29-62).

Claims 26 and 27 are similar to claims 14 and 24, therefore are rejected under the same rationale.

Regarding claim 28, Sugai teaches a method for transmitting data units from a node that includes one or more network interfaces, comprising:

identifying a first one of the one or more network interfaces from which to transmit a data unit when the data unit is received by the node or generated by the node (figure 1);

determining a second one of the one or more network interfaces to transmit the data unit when the data unit is ready to be transmitted by the node (figure 1); and

transmitting the data unit via the second network interface when the second network interface is the same as the first network interface (abstract).

However, Sugai does not explicitly state the storing of the first data unit in an output queue, and determining one of the one or more network interfaces from which the first data unit is to be transmitted subsequent to storing the first data unit in the output queue. In an analogous art, Mimorov teaches maintaining output queues for the associate received data (col. 1, lines 52-60; figure 1: 111-113; figure 3A-3C: 320 and 345), and subsequent to storing a data in the output queue, transmitting the data to its appropriate ports (figures 1 and 3C). At the time the invention was made, one of ordinary skill in the art would have been motivated to employ an output queue in order to reduce the amount of information that needs to be accessed and processed at the node, therefore efficiently switching data (col. 3, lines 29-62).

Regarding claim 29, Sugai teaches the method of claim 28 further comprising: storing the data unit in a queue associated with the first network interface (figure 2); and storing the data

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unit in a queue associated with the second network interface when the second network interface is different from the first network interface (figure 2).

Regarding claim 30, Sugai teaches the method of claim 28 further comprising: determining whether the data unit is a multicast data unit; and storing, when the data unit is a multicast data unit, the data unit in a queue associated with each of the one or more network interfaces (col. 5, line 15-29).

Regarding claim 31, Sugai teaches the method of claim 28 wherein the data unit is a multicast data unit, and wherein the method further comprises: storing, for each neighboring node, information indicating whether the multicast data unit has been transmitted to that neighboring node (col. 7, lines 6-25).

Claims 32-35 are similar to claims 28-31, therefore are rejected under the same rationale.

Regarding claim 36, although Sugai does not explicitly teach the network device of claim 32 wherein the one or more network interfaces is configured to transmit the data units via a wireless link, it would be obvious to one of ordinary skill in the art at the time the invention was made to employ a wireless link in order to make the network more portable, therefore making the network more efficient.

Claim 37 is similar to claim 31, therefore is rejected under the same rationale.

Claim 38 is similar to claim 32, therefore is rejected under the same rationale.

Claims 45-50 are similar to claims 28-31 therefore are rejected under the same rationale.

Response to Arguments

Applicant's arguments filed February 16, 2006 have been fully considered but they are not persuasive. In response to Applicant's arguments that the prior arts do not teach the amended limitations such as "output queue" and "determining one of the one or more network interfaces subsequent to storing the first data unit in the output queue" the PTO respectfully disagrees and submits that these features are taught by the references in the cited areas above.

Applicant's amendment also raises new ground of rejection because it was not disclosed in the specification. Please see the 112 rejections above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

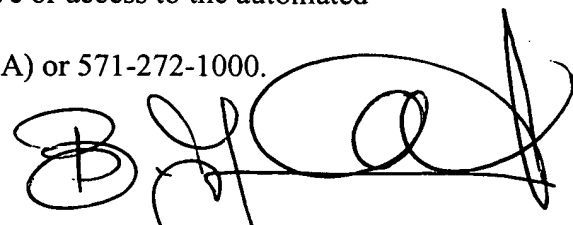
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N. Boutah whose telephone number is 571-272-3908. The examiner can normally be reached on Monday-Friday (9:00 am - 5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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